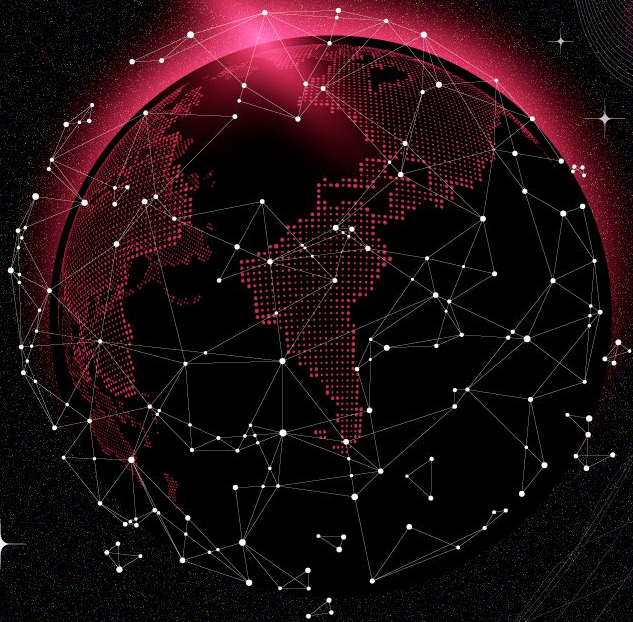




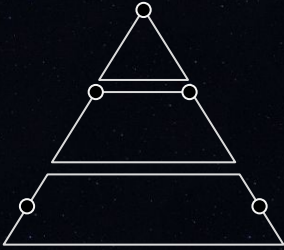
# Inteligência Híbrida de Dados

Novas alavancas de crescimento baseadas  
em estratégia e aceleradas pela tecnologia.



Modelos de Negócio  
**REVOLUÇÕES E SOCIEDADES**

REVOLUÇÃO **INDUSTRIAL**  
SOCIEDADE DE **CLASSES**



**Market oriented**

diferentes contextos,  
mentalidades distintas

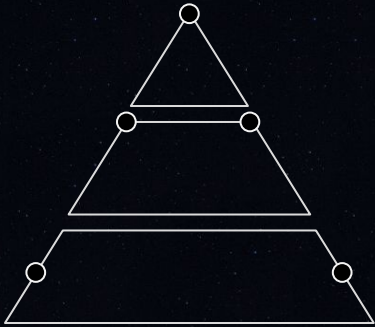


REVOLUÇÃO **DIGITAL**  
SOCIEDADE EM **REDES**



**People oriented**

# ESTRATÉGIA DE INOVAÇÃO



**Market oriented**

1



## RECEITA

Qual é minha meta?

2



## ESTRUTURA

Qual é a estrutura física e os recursos humanos de que preciso para viabilizar essa meta?

3



## PRODUTOS E SERVIÇOS

O que posso oferecer no mercado?

4



## PESSOAS

Como posso refinar minha oferta em relação ao que as pessoas esperam?



# ESTRATÉGIA DE INOVAÇÃO

4



## RECEITA

A relevância do negócio para as pessoas garantirá seu valor e sua perenidade.

3



## ESTRUTURA

De que pessoas, estrutura física, parceiros e outras coisas eu preciso?

2



## PRODUTOS E SERVIÇOS

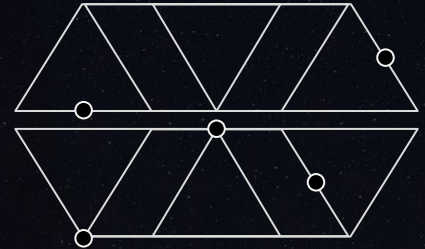
Como posso moldar soluções para essa demanda e do planeta?

1



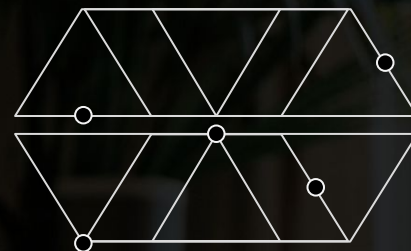
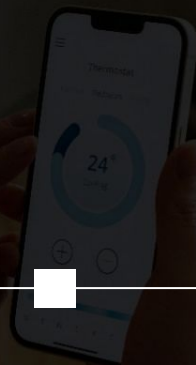
## PESSOAS

Quais são as dores das pessoas?  
Que simplificação do mundo é relevante?



**People oriented**

O digital **aumentou**  
**exponencialmente**  
a velocidade das inovações



**People oriented**

quem **detém os dados, detém a**  
**relação com o consumidor,**  
habilitando novos negócios para  
**TRANSFORMAR O MERCADO.**

O digital **aumentou**  
**exponencialmente**  
a velocidade das inovações



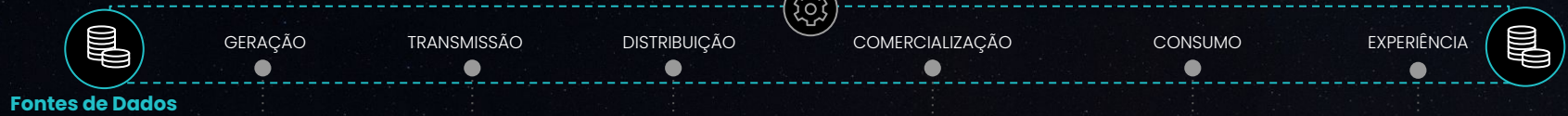
**People oriented!** *De toda a operação!*

quem **detém os dados**, detém a  
**relação com o consumidor**,  
habilitando novos negócios para  
**TRANSFORMAR O MERCADO.**

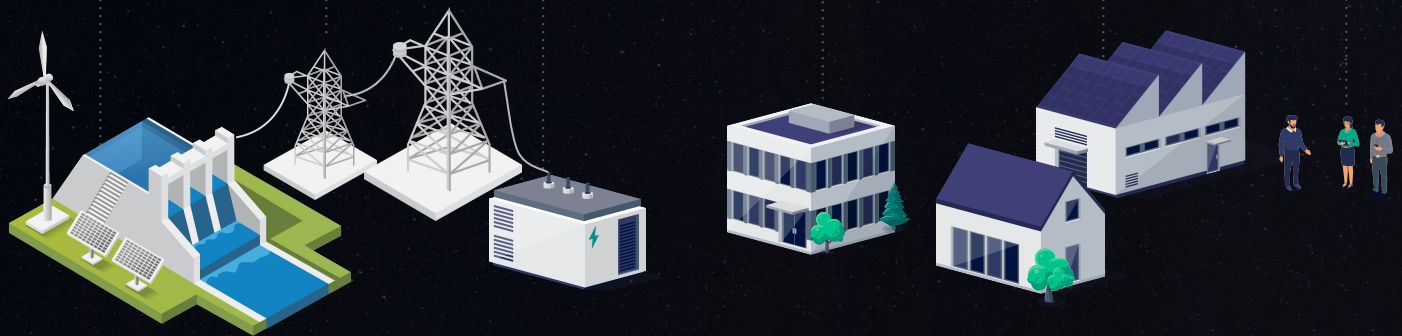
Ciência e Engenharia de dados

EFICIÊNCIA OPERACIONAL

ENGAJAMENTO DO CONSUMIDOR



Fontes de Dados



Ciência e Engenharia  
de dados

EFICIÊNCIA OPERACIONAL



ENGAJAMENTO DO CONSUMIDOR



Análise **Preditiva**



Análise de **padrões e tendências**



Acesso e **monitoramento** a informações de consumo, faturas, quedas, etc.



**Gestão** de podas e incêndios



**Estratégias** de Go To Market e Rentabilização



Atendimento **Omnichannel**



Maior **eficiência** de O&M



**Gestão visual** com métricas



KPIs, OKRs, Indicadores, Priorização



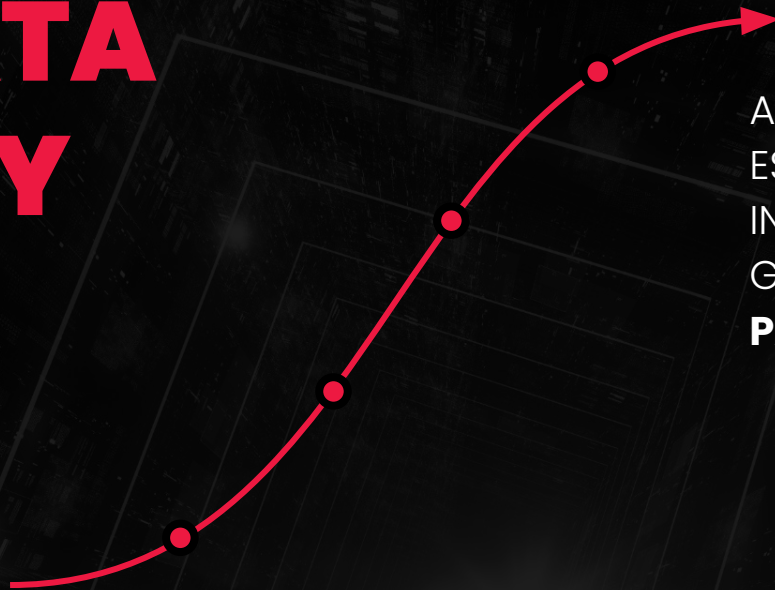


## ÂNGULO DE ENTRADA

Construção da Inteligência Híbrida de Dados:  
Evolução gradual através de ciclos de aprendizagem.

# CI&T DATA JOURNEY

UM **PROCESSO  
CUSTOMIZADO**  
QUE AUMENTA AS  
CAPACIDADES  
PASSO-A-PASSO



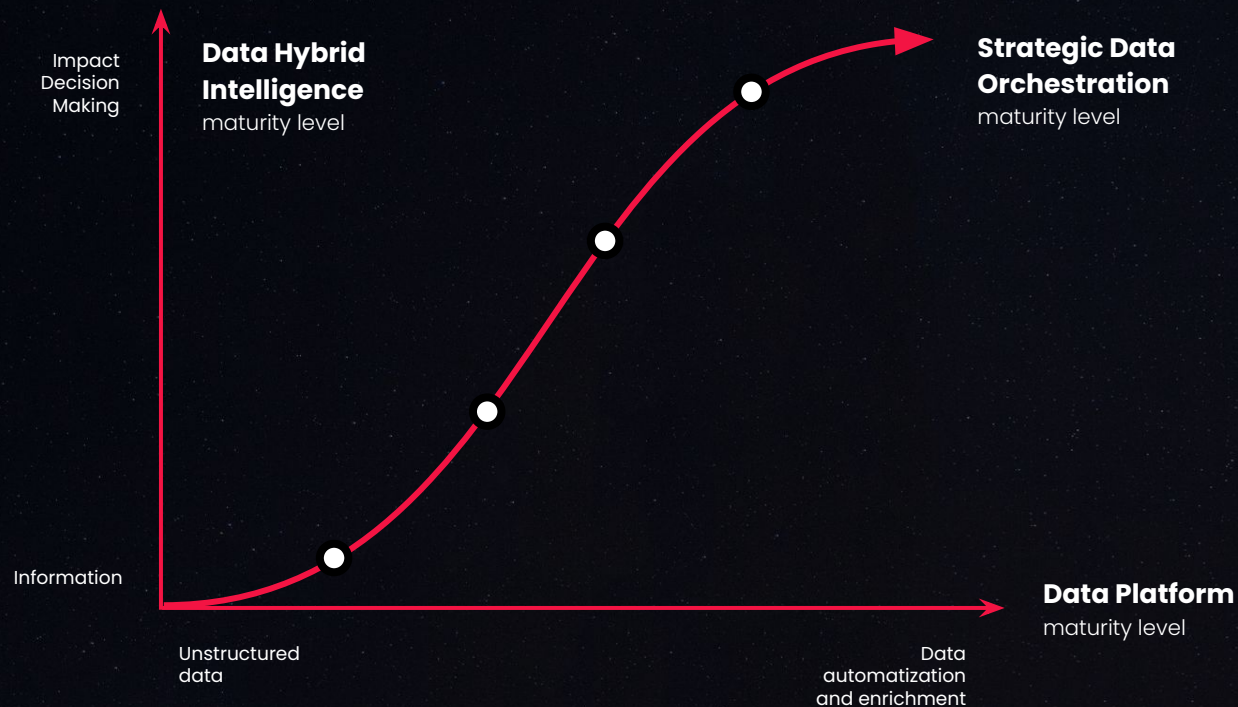
ATÉ QUE OS DADOS  
ESTEJAM ACESSÍVEIS,  
INTEGRADOS E  
GERANDO **VALOR**  
**PARA SEU NEGÓCIO**

# CI&T WAY

Como nós fazemos

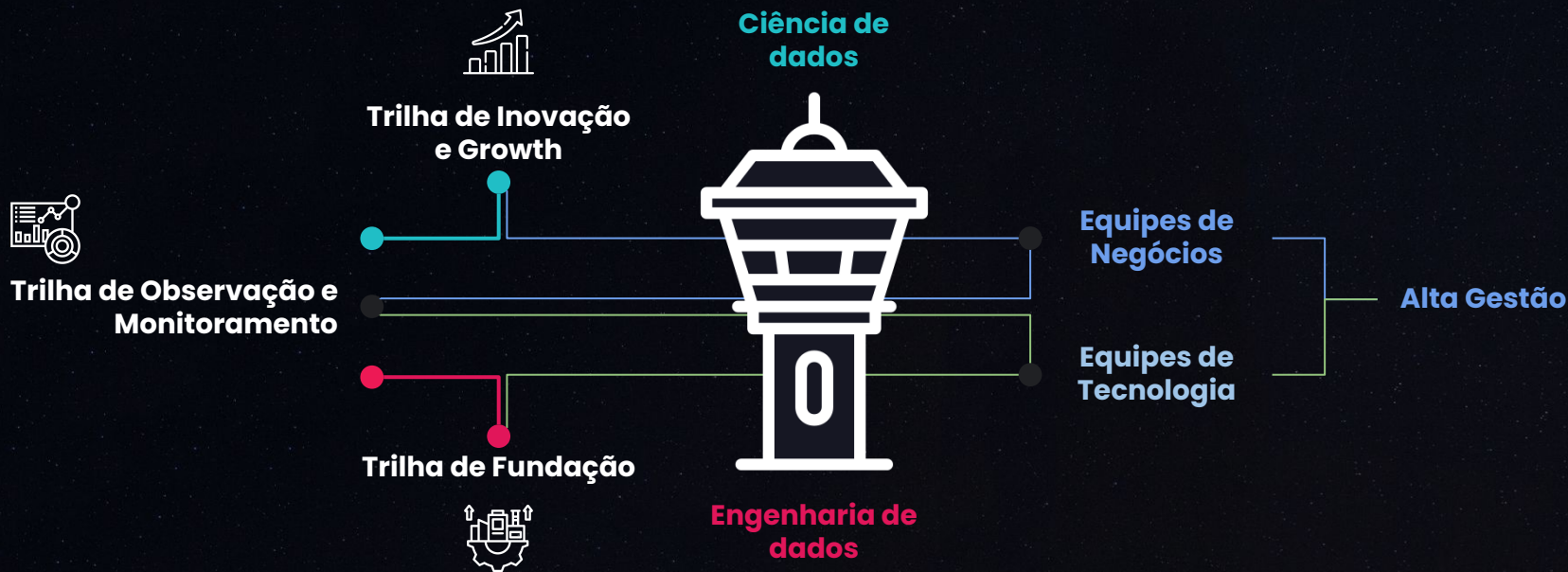
QUE PROMOVE  
UMA EVOLUÇÃO  
NÃO LINEAR  
CONSTANTE:

DOS **DADOS**  
**BRUTOS** AO  
IMPACTO NOS  
NEGÓCIOS



# CI&T WAY

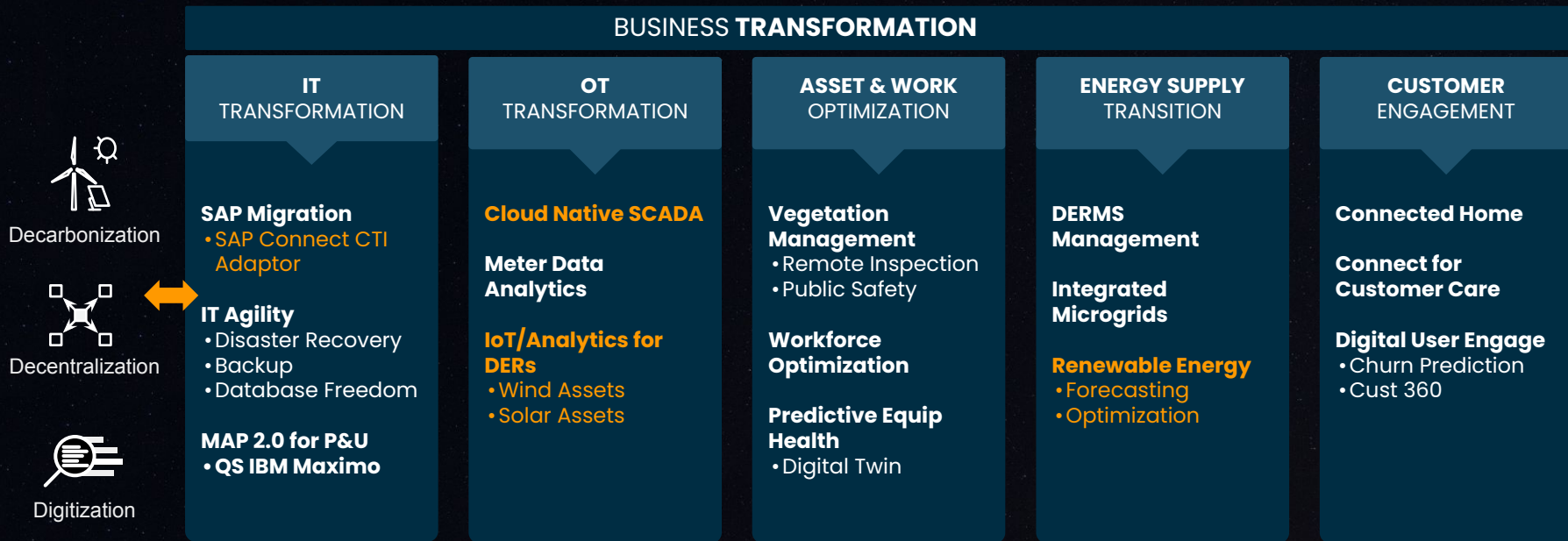
Como nós fazemos





# A JORNADA DA TRANSFORMAÇÃO DA **DIGITAL UTILITY**

Por meio de soluções orientadas a resultados de negócios usando **AWS**



# SDG&E use AWS AI/ML

to prevent **wildfires** and **remote asset inspection**

## Innovation At Work

SDG&E has received national recognition for wildfire safety innovations and Best of the West award for electric reliability for the 14th consecutive year.

## WILDFIRE DATA ENHANCEMENTS

**230+**

Weather Stations

**30,000+**

Poles flow by Drone for inspection

**100+**

Cameras monitoring Weather & fires

## Asset and Damage Detection

Objective: Create a Human + Machine to augment manual image review through the use of machine learning to process images and identify high risk issues



## Enterprise image repository

A centralized repository in S3 to store millions of images from drones, video, cameras, etc.

## Asset and Damage detection models

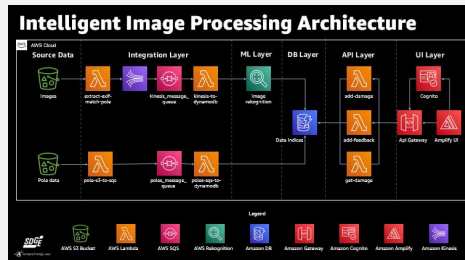
Electric grid asset detection and damage detections models to prioritize issues with the highest risk

## Visualization user interface

Map-based interface that enables visualization of images and model results

## Using Artificial Intelligence to prevent wildfires

- Weather Analytics
- Intelligent Image Processing
- Satellite Imaging



# ENGIE will save 100's of thousands of euros with Amazon SageMaker for Predictive Maintenance at Power Plants

## Challenge

ENGIE wanted modern tools enabling it to develop, train, and deploy predictive maintenance models in order to anticipate breakdowns and malfunctions of equipment within the Group's power plants and for its customers. It also wanted to stay up to date and benefit from the latest technological innovations to guarantee the industrialization and scalability of its models.

## Solution

ENGIE uses a combination of Amazon S3, AWS Glue, AWS Lambda and Amazon Athena for data storage, profiling and preparation, then Amazon SageMaker for model development, training and inferences.

## Benefits

- More than 1,000 prediction models developed and trained for a equipment such as valves, pumps, ventilation, air conditioning, and heating systems.
- 10,000 pieces of equipment will ultimately be connected and benefiting from predictive maintenance within 5 years for ENGIE power plants and the Group's B2B customers.
- **Estimated savings of €800,000 per year** for the Group's business units that have adopted predictive maintenance

“ • **The choice of an AWS architecture** was guided by the constraints of our business, which by its industrial nature incorporates the concept of predictive maintenance. With several thousand pieces of equipment in operation, each with several dozen models, we scale up very quickly, and scalability is a significant issue.

Mihir Sarkar, Chief Data Officer, ENGIE



- Company: ENGIE
- Country: FR
- Number of Employees: 150,000
- Website: [ENGIE.com](https://www.engie.com)
- **About ENGIE**

With a presence in more than 70 countries across five continents, ENGIE is a key player in low-carbon energy production, distribution, and services on a global scale. The development of ENGIE Digital is testament to the Group's desire to create and take advantage of digital technologies to accelerate the strategy for transitioning to carbon neutral energy.

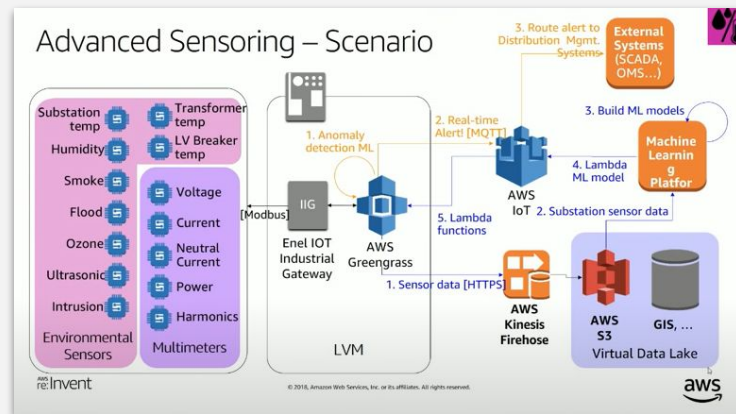
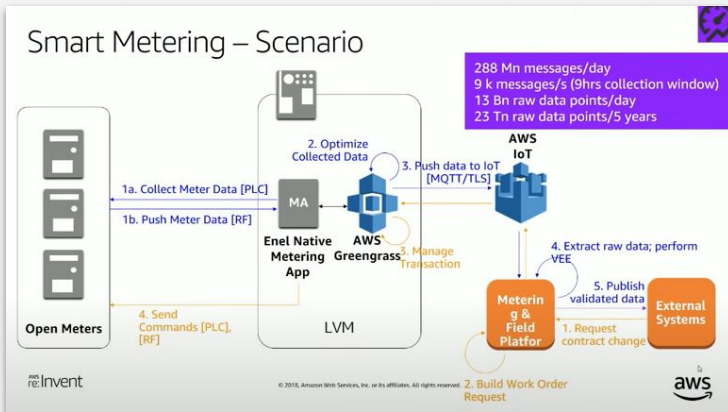




## How can I liberate data that is locked in industrial facilities?

- **38MM** de medidores inteligentes em território Enel
- O desafio é adquirir com segurança grandes quantidades de dados inteligentes de medidores e sensores enquanto move a lógica de negócios do “centro para a borda”
- Usando o AWS IoT para coletar, agregar e enviar dados para o repositório central, enquanto processa os dados do sensor localmente e toma ações na borda

AWS re:Invent 2018: Computing at the Edge with AWS Greengrass & Amazon FreeRTOS, ft. Enel (IOT213)







# Meter Data Analytics 2.0

Providing the foundation for utilities to maximize their smart meter data



## Reduced costs

- ▶ Reduction in truck rolls for false alarms and unexpected failures
- ▶ Data strategy & requirements
- ▶ Energy theft reduction
- ▶ Reduce peak demand charges



## Increased reliability & safety

- ▶ Reduction in truck rolls for false alarms and unexpected failures
- ▶ Data strategy & requirements
- ▶ Energy theft reduction
- ▶ Reduce peak demand charges



## Better visibility and planning

- ▶ Reduction in truck rolls for false alarms and unexpected failures
- ▶ Data strategy & requirements
- ▶ Energy theft reduction
- ▶ Reduce peak demand charges



Ideas are precious.  
**Execution is everything.**



Let's make their  
**tomorrow!**

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SPECIALISTS